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MAY 03 2001
PATENT & TRADEMARK OFFICE

#6

SEQUENCE LISTING

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Met Asn His Pro Trp His
1 5

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Val Cys Phe Leu Phe Lys Val Leu Arg Tyr Tyr Pro Thr Ala Pro Ile
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Leu Lys Trp Thr His Thr Val Ser Cys Ser Trp Cys Arg Ser Val Leu
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agg gaa gtt gta ggc aat gtg agt tta tca gaa aac ttc acc ata tca 798
Arg Glu Val Val Gly Asn Val Ser Leu Ser Glu Asn Phe Thr Ile Ser
40 45 50

gca ttt tgc cct gag ctt aca cca ttc cca gat caa ggt aca agc aca 846

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Met Ile Ser Phe Leu Glu Lys Phe Asn Lys Ser Lys Arg Glu Arg Leu
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gag ttg atg ctg cat ttt tat tct gtg tta agt ctt gaa cct gct ttt   942
Glu Leu Met Leu His Phe Tyr Ser Val Leu Ser Leu Glu Pro Ala Phe
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gct gaa cat tgg tca ggg gaa ttt gag aag tgg aaa gtg ggc ttt ttt   990
Ala Glu His Trp Ser Gly Glu Phe Glu Lys Trp Lys Val Gly Phe Phe
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cac cct ttg aaa aga gag gat gga ttc ttc acc aga act gac att       1035
His Pro Leu Lys Arg Glu Asp Gly Phe Phe Thr Arg Thr Asp Ile
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Ala Val Tyr His Gly Lys Ile Ser Arg Glu Thr Gly Glu Lys Leu Leu
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Leu Ala Thr Gly Leu Asp Gly Ser Tyr Leu Leu Arg Asp Ser Glu Ser
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Val Pro Gly Val Tyr Cys Leu Cys Val Leu Tyr His Gly Tyr Ile Tyr
40 45 50

aca tac cga gtg tcc cag aca gaa aca ggt tct tgg agt gct gag aca 306
Thr Tyr Arg Val Ser Gln Thr Glu Thr Gly Ser Trp Ser Ala Glu Thr
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gca cct ggg gta cat aaa aga tat ttc cgg aaa ata aaa aat ctc att 354
Ala Pro Gly Val His Lys Arg Tyr Phe Arg Lys Ile Lys Asn Leu Ile
70 75 80

tca gca ttt cag aag cca gat caa ggc att gta ata cct ctg cag tat 402
Ser Ala Phe Gln Lys Pro Asp Gln Gly Ile Val Ile Pro Leu Gln Tyr
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Ile Arg Glu Asp Pro Asp Val Cys Leu Lys Ala Pro
            120                 125

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Leu Asn Asp Ser Ser His Lys Lys Phe Phe Asp Val Ser Lys Leu Gly
             20                  25                  30

acc aag tat gat gtt ctg cct tac tca ata cgg gtc ttg ttg gaa gct   144
Thr Lys Tyr Asp Val Leu Pro Tyr Ser Ile Arg Val Leu Leu Glu Ala
         35                  40                  45

gct gta cga aat tgt gat ggc ttt tta atg aag aag gaa gat gtt atg   192
Ala Val Arg Asn Cys Asp Gly Phe Leu Met Lys Lys Glu Asp Val Met
     50                  55                  60
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aac att tta gac tgg aaa acc aaa caa agc aat gtt gaa gtg ccc ttt   240
Asn Ile Leu Asp Trp Lys Thr Lys Gln Ser Asn Val Glu Val Pro Phe
 65                  70                  75                  80

ttc cct gcc cgt gtt ctt ctt caa gat ttt act gga ata cca gca atg   288
Phe Pro Ala Arg Val Leu Leu Gln Asp Phe Thr Gly Ile Pro Ala Met
                85                  90                  95

gtg gat ttt gct gct atg agg gag gca gtg aaa act ctt gga ggt gat   336
Val Asp Phe Ala Ala Met Arg Glu Ala Val Lys Thr Leu Gly Gly Asp
            100                 105                 110

cct gag aaa gtc cat cct gct tgt ccg aca gat ctt aca gtt gac cat   384
Pro Glu Lys Val His Pro Ala Cys Pro Thr Asp Leu Thr Val Asp His
        115                 120                 125

tct tta caa att gac ttc agt aaa tgt gca ata cag aat gca cca aat   432
Ser Leu Gln Ile Asp Phe Ser Lys Cys Ala Ile Gln Asn Ala Pro Asn
    130                 135                 140

cct gga ggt ggt gac ctg cag aaa gca gga aag ctc tct cca ctt aaa   480
Pro Gly Gly Gly Asp Leu Gln Lys Ala Gly Lys Leu Ser Pro Leu Lys
145                 150                 155                 160

gtg cag cct aag aag ctt ccc tgc aga ggc cag act acc tgc cga gga   528
Val Gln Pro Lys Lys Leu Pro Cys Arg Gly Gln Thr Thr Cys Arg Gly
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tct tgt gat tct gga gaa cta ggc cga aac tca gga aca ttt tct tcg   576
Ser Cys Asp Ser Gly Glu Leu Gly Arg Asn Ser Gly Thr Phe Ser Ser
            180                 185                 190

cag att gag aat aca ccc atc ctg tgt cct ttt cat ttg caa cca gtg   624
Gln Ile Glu Asn Thr Pro Ile Leu Cys Pro Phe His Leu Gln Pro Val
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cct gaa cct gaa aca gtg tta aaa aat caa gaa gta gaa ttc ggc aga   672
Pro Glu Pro Glu Thr Val Leu Lys Asn Gln Glu Val Glu Phe Gly Arg
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aat cga gag agg ctt cag ttt ttt aag tgg agt tca aga gtt tta aag   720
Asn Arg Glu Arg Leu Gln Phe Phe Lys Trp Ser Ser Arg Val Leu Lys
225                 230                 235                 240

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            260                 265                 270

cca gac agt gta gtc ggc aca gat tca cac ata acg atg gtg aat ggt   864
Pro Asp Ser Val Val Gly Thr Asp Ser His Ile Thr Met Val Asn Gly
        275                 280                 285

tta ggg att ctg ggg tgg ggg gtt gga ggc att gaa aca gaa gca gtt   912
Leu Gly Ile Leu Gly Trp Gly Val Gly Gly Ile Glu Thr Glu Ala Val
    290                 295                 300

atg ctt ggt ctg cca gtt tct ctt act tta cca gag gtg gtt gga tgt   960
Met Leu Gly Leu Pro Val Ser Leu Thr Leu Pro Glu Val Val Gly Cys
305                 310                 315                 320

gag tta act ggg tca tca aac cct ttt gtt aca tcc ata gat gtt gtt   1008
Glu Leu Thr Gly Ser Ser Asn Pro Phe Val Thr Ser Ile Asp Val Val
                325                 330                 335

ctt ggt att aca aag gta agt taaagttgtg gtagctctat gacttactga      1059
Leu Gly Ile Thr Lys Val Ser
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aggtccatcc agaaattggc ttcaaaagag gaatcttcta attctagtga cagtaaatca 180

cagagccgga gacatttgtc agccaaggaa agaagggaaa tgaaaaagaa aaaacttcca 240

agtgactcag gagatttaga agcgttagag ggaaagga 278

<210> 10
<211> 135
<212> DNA
<213> Homo sapiens

<400> 10
ttctgacaat gagtaagaag aaagagggtc ttgccctttg gttattaaga tttatcatag 60

agcaataata astaaatcgg tgttatacca gcacagagat tagacaaata aaccaaggga 120

ctggactaaa taagc 135

<210> 11
<211> 197
<212> DNA
<213> Homo sapiens

<400> 11
atggtaccca gtttcaaatt aacatggtta ttttacttgt gttcccaaat ttaacattag 60

ggaatttttg gttgtgggtc tgttatcact agaaaaatat atatattggt gctgaagata 120

attttgagat aattagacaa gacagtttag catttacaag aacaagtttg gcagttgaag 180

aatctattta tatgact 197

<210> 12
<211> 137
<212> DNA
<213> Homo sapiens

<400> 12
ccaccgcacc tggctgatgc ttttctatct gacttctttc agaggaccct gaaagacact 60

aagtggaatc tttccttgaa gtcttccaag ctaaaacaat tctctggaaa gatcacctct 120

gttcagtcct ggtctct 137

<210> 13
<211> 274
<212> DNA
<213> Homo sapiens

<400> 13
cgtttacaga ttctcttgcg gctggcggtg gaactacaaa gggatcggtg cctatatcac 60

aataccaaac ttgataataa tctagattct gtgtytctgc ttatagacca tgtttgtagt 120

aggtaagagg aaaacttcct atattctgaa acagcctaac attttacaaa attttagttt 180

tctttttag agtcttatcc tgtagctata taacagttca tgtctgattt agcatttgtt 240

cacgagtaaa gctggaacta tgaaaattga aaat 274

<210> 14
<211> 171
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> (72), (127), (150)
<223> A or G or C or T

<400> 14
gattaggtga ccttccttga aragccacgg gtttcccata tcgaaatgct attcattacc 60

cgagtcacct angttcttac aaaggaagcg agaaaattgc ttttgttggg ccatgcccct 120

tttgcanagg ttcctaagta tagtcgccan aatttttta atggcctaaa g 171

<210> 15
<211> 161
<212> DNA

<213> Homo sapiens

<400> 15
aggggcgctt gttctgctct cagcagattg gttacacgcg tcaggtggtg gcgatgactt 60

aattcctagc ccaagaagaa tataatgtta aaactggtta tgtaattttt gtgcctctcc 120

tttttaatgc agtatttagt tcagatgttg gcgatttttc a 161

<210> 16
<211> 323
<212> DNA
<213> Homo sapiens

<400> 16
tataaggwgg gaaccttact atctctaatg accttactga tgctgacttt aatactctgt 60

gaaggttaga gttcagtgaa tgttacctag aaacagcccc ggctgtggaa tactttattc 120

ttagccctat atttggggtt tggatgtcca ctgtgctggt tcccagagat agtaagggga 180

tgagagtatt ggttacatct cctgacccac atacttaaga tccagatgaa caagacagtt 240

ttcactcctg cttggtagaa cctatttgyk shaggaaaca gytcctaaag aatggttcta 300

gccagaccct gtcgytacca gaa 323

<210> 17
<211> 138
<212> DNA
<213> Homo sapiens

<400> 17
agtatgacaa atagtttctg cctgattggt gagatttggg atgggccccc actttgtttc 60

tctttctgca taaaaatttc aacattttta caaaattttc aaaaacttct cctcagtctg 120

tacatctttg ttaatcag 138

<210> 18
<211> 135
<212> DNA
<213> Homo sapiens

<400> 18
tgatccccac aatttcttgt gattggtgag gaactataaa tgactcccat ccaagcttat 60

accagaaaaa aggagcacat tttctacaaa ttatatcatt tttaatccat taccacatta 120

ttttagggga actac 135

<210> 19
<211> 219
<212> DNA
<213> Homo sapiens

<400> 19
ctgagaggag ccatgtatac aaaccacttt ttctaacatg gtctttatta aactttgaat 60

ataagtacac ctgctcgaag tgttcatcta tattatttaa gaacaagcaa ctgtaaaaca 120

gtaaaatcac aaaaggtaag ttgttggaag acaacaaaaa agaattacta tatctgatcc 180

tgcgtgttta ttttagaatc tgttaatagg cctacagct 219

<210> 20
<211> 191
<212> DNA
<213> Homo sapiens

<400> 20
acagtgagtg tggctgaaac ctaagctgaa ggaagggagg agcaggcact gccatgaggg 60

gtccctggac agaaactctt cagcaggcct tgaagtttag ttcaggggct acatggaata 120

ccactattta gcacacaggt gtgatctgag gtgagggact acctttcga tcttggtttt 180

ctcatttatt t 191

<210> 21
<211> 148
<212> DNA
<213> Homo sapiens

<400> 21
ctggaggtga agggaaggaa agaaaggaaa aactatctac ctggcaggaa aagagataag 60

ctcccaagaa caccaaagca gatgatgagt ctagctctac ccagccttcc tccccacgaa 120

tccagatcat agtaagaaac tctgggct 148

<210> 22
<211> 306
<212> DNA
<213> Homo sapiens

<400> 22
ccaccaccag aaatgaacaa aaagcatttt acctaaaaat acaccagcaa aatgtactca 60

gcttcaatca caaatacgac tgcttaaaac cgcagaaatt tcctcaacac tcagccttta 120

tcactcagct ggatttttc cttcaacaat cactactcca agcattgggg aacacaactt 180

ttaatcatac tccagtcgtt tcacaatgca ttctaatagc agcgggatca gaacagtact 240

gcatttactt gccaacagaa cagacagacc tgaagtcaag acaactgcat tctctgtgaa 300

gtctgt 306

<210> 23
<211> 357
<212> DNA
<213> Homo sapiens

<400> 23
gtagcatttt ggcagaacca ttgttaatta aagggactty tggaccgcaa cyttaatgta 60

ccagattatt gagcrgccca atgaatgctt cattctcatt gtttaaggtg ctgctttgat 120

ttttttttca attctttgta ctatttttta ttttttggag aggcacatcc ccaaatttgg 180

atgaggtatt tgttgataaa taattcatca atttccacaa tgcagacaaa aatgtctgcc 240

cagagtggaa aaataaaaca agggggagaa gagtttgagt aacggagaag ttctgtggaa 300

tcctagtgac aaaagttgag aaactacctt taaataagac agtgaggtaa caaatgt 357

<210> 24
<211> 219
<212> DNA
<213> Homo sapiens

<400> 24
tggaatagcc aggagaattc tggaaaagta gaataatgag gtagggcttc ccttcgctat 60

tttgaagtgc agattacact atgtaaaacc attaggaact ggcacgtgaa tagacagatc 120

aatagttaat agctgtatta gccagaaaat ggtgtaagga caacaggcta actaaccctg 180

tcacttgtta tgctaaaatt aagtctagat agagtcctc 219

<210> 25
<211> 251
<212> DNA
<213> Homo sapiens

<400> 25
tgaaagggga atagaagcac aagagtcagt aatcaataac aaacaactca aggtgctcct 60

tccttacact ggtgttcccc aaagtgaggt gaattgccag ccactgggag tcagggccag 120

ttacataaga cattctcggt aagccccctt tgggtatccc aaataaggac tggggtgggt 180

ttatgtgtag tccattatta acaactaaac gaacaaacct agtgaattgc aataaattca 240

caccaacaga a 251

<210> 26
<211> 233
<212> DNA
<213> Homo sapiens

<400> 26
gttgaaagag tccttggaag gcttttagac caaacccctc tgcatgctca arccttgggt 60

acaggatttc taagaagtgg aacagtctcc aggggtgtgg arctcatcgc tcaaggcagg 120

ttatcttatc tgaataattt tgtctgttga ctattgggat agttctcctt cagatgagct 180

gaaattttct ccatagcttc ctctattaaa cccaattcca cttctcaggg tca 233

<210> 27
<211> 176
<212> DNA
<213> Homo sapiens

<400> 27
caaaagcgct gaagttaagc attaatacgc cagattcatg atttatgatc agtatccaaa 60

actccaacta caaacaatgc aaagtagtgc tcctcagtat tatttttgca attgttagta 120

atgttaagca tcaaggaaaa taaaacacat cattgcacat tacagccgca aaaaac 176

<210> 28
<211> 241
<212> DNA
<213> Homo sapiens

<400> 28
agagagtaaa gcaagctatt ttgacagcaa cctaataaca gctgtcttct tccacttctt 60

ggctaactca tcccccagat agccttcttt tctcttatca attccctgtt gcaacaataa 120

taaatgccac acctgatgga gtcattaggc actttcctag tgacaagtgc ctaggacaga 180

ggagaaaaca aagaaacact gacaaccact gaaaactgac atatcaggcc aggcatgtca 240

c 241

<210> 29
<211> 217
<212> DNA
<213> Homo sapiens

<400> 29
gctggagagg tggtgatgtt gctgaataat tgctttttaa agctggaggg gacttccaag 60

agtctctcat ttaagaaraa aaattaaaga cataattggt aacggttttg actgctgcag 120

aggcaacact ttgctcacaa tcctacagat ctacttcacc tgtaactaca attttcctga 180

agacatagaa gaaaaatcaa ttgttctaat ccatatg 217

<210> 30
<211> 233
<212> DNA
<213> Homo sapiens

<400> 30
aatcttagca taatgcttcc tgggaaattc tgaaattgat tccatttctg ccgttacaaa 60

cacacacgaa gttcctagtt cactgggact tcctgatttg ttcttttagc ttgctccttc 120

tcacctagaa gctctgttta tttctgagca accctggggc ttgtctcata ggacaggatt 180

tatttatctc atcaaggctg agtgtgcctt aggaagtcat aaacataaaa aga 233

<210> 31
<211> 228
<212> DNA
<213> Homo sapiens

<400> 31
tatagacagg gtagggacga ttagcccctc gacaactttt cacaaatata cacacgttta 60

actacctctc aggtcatgat aaagaccggc cgggcagaaa cactgtaatc ccagctactc 120

gggagcctga ggcatgagaa tcacttgaac ctgggaggtg gaggttgcca tgagccgaga 180

tcacgccatt gcactacagc cttggcgaca agagtgaaac tccatctg 228

<210> 32
<211> 298
<212> DNA
<213> Homo sapiens

<400> 32
gcttatgatt acaaacatcc ctcatatgaa aatctcagca tttnctggct gctgccttca 60

atcgcttttt ctgaaatagg tatcccttga tgtcgactat ttgatttcag ccagtcgttt 120

ctctctggca gtgctccctg caaatgtgtc ctttcaagaa aacaaaacct gcaagtggct 180

tgtaatgtac catgacctta tcatgtgaag gacaaatggc tcttgtgctt attagatagc 240

agatgaactg atgaactgaa ttcttggtct gaagctttga taaggtcaga tgtctttg 298

<210> 33
<211> 291
<212> DNA
<213> Homo sapiens

<400> 33
acttcgaagg gaaaaagagg aaggaaaagg actgttaata aaataacaaa ggcagcaatc 60

agaatgaacc agagccagga cagcgtaaag gctaggttca cagtgagatg aaagaacctg 120

aaaacaagtt taaaactcaa aagaggatta ttctcaagtt atactacagt gaaaaaacat 180

ggaaaaacac aaaaaggaca ggcaataagg cacaggcata catacaaggc aaattgtaac 240

acaatattta cttgcaaaag agcccacaga gacatgtcaa tgaagtcata g 291

<210> 34
<211> 230

<212> PRT
<213> Homo sapiens

<400> 34

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Met Glu Asp Gly Phe Leu Asp Asp Gly Arg Gly Asp Gln Pro Leu His
 1               5                  10                  15

Ser Gly Leu Gly Ser Pro His Cys Phe Ser His Gln Asn Gly Glu Arg
            20                  25                  30

Val Glu Arg Tyr Ser Arg Lys Val Phe Val Gly Gly Leu Pro Pro Asp
        35                  40                  45

Ile Asp Glu Asp Glu Ile Thr Ala Ser Phe Arg Arg Phe Gly Pro Leu
    50                  55                  60

Ile Val Asp Trp Pro His Lys Ala Glu Ser Lys Ser Tyr Phe Pro Pro
65                  70                  75                  80

Lys Gly Tyr Ala Phe Leu Leu Phe Gln Asp Glu Ser Ser Val Gln Ala
                85                  90                  95

Leu Ile Asp Ala Cys Ile Glu Glu Asp Gly Lys Leu Tyr Leu Cys Val
            100                 105                 110

Ser Ser Pro Thr Ile Lys Asp Lys Pro Val Gln Ile Arg Pro Trp Asn
        115                 120                 125

Leu Ser Asp Ser Asp Phe Val Met Asp Gly Ser Gln Pro Leu Asp Pro
    130                 135                 140

Arg Lys Thr Ile Phe Val Gly Gly Val Pro Arg Pro Leu Arg Ala Val
145                 150                 155                 160

Glu Leu Ala Met Val Met Asp Arg Leu Tyr Gly Gly Val Cys Tyr Ala
                165                 170                 175

Gly Ile Asp Thr Asp Pro Glu Leu Lys Tyr Pro Lys Gly Ala Gly Arg
            180                 185                 190

Val Ala Phe Ser Asn Gln Gln Ser Tyr Ile Ala Ala Ile Ser Ala Arg
        195                 200                 205

Phe Val Gln Leu Gln His Gly Glu Ile Asp Lys Arg Val Ser Leu Ile
    210                 215                 220
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Leu His Phe Gly Lys Phe
225 230

<210> 35
<211> 143
<212> PRT
<213> Homo sapiens

<400> 35
Met Gly Ser Asp Lys Arg Val Ser Arg Thr Glu Arg Ser Gly Arg Tyr
1 5 10 15

Gly Ser Ile Ile Asp Arg Asp Asp Arg Asp Glu Arg Glu Ser Arg Ser
20 25 30

Arg Arg Arg Asp Ser Asp Tyr Lys Arg Ser Ser Asp Asp Arg Arg Gly
35 40 45

Asp Arg Tyr Asp Asp Tyr Arg Asp Tyr Asp Ser Pro Glu Arg Glu Arg
50 55 60

Glu Arg Arg Asn Ser Asp Arg Ser Glu Asp Gly Tyr His Ser Asp Gly
65 70 75 80

Asp Tyr Gly Glu His Asp Tyr Arg His Asp Ile Ser Asp Glu Arg Glu
85 90 95

Ser Lys Thr Ile Met Leu Arg Gly Leu Pro Ile Thr Ile Thr Glu Ser
100 105 110

Asp Ile Arg Glu Met Met Glu Ser Phe Glu Gly Pro Gln Pro Ala Asp
115 120 125

Val Arg Leu Met Lys Arg Lys Thr Gly Glu Ser Leu Leu Ser Ser
130 135 140

<210> 36
<211> 104
<212> PRT
<213> Homo sapiens

<400> 36
Met Pro His Met Leu Ser Gln Leu Ile Ala Gly Gly Val Ser Thr Ser
1 5 10 15

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Cys Val Thr Ala Leu Gly Glu Glu Thr Gly Ala Trp Phe Pro Val Tyr
            20                  25                  30

Leu Ser His Ala Ser Ser Pro Phe Ala Asp Leu Val Phe Cys Pro Phe
        35                  40                  45

Ala Glu Ile Asn His Ser Gln Glu Tyr Asp Asn Met Arg Gly Pro Val
    50                  55                  60

Ser Pro Pro Asn Lys Gln Phe Asn Leu Gly Val Ile Phe Gly Ile Pro
65                  70                  75                  80

Asn Asn Cys Arg Phe Pro Thr Asp Asn Lys Ile Thr Glu Lys Gln Leu
                85                  90                  95

Leu Gly Asn Val Leu Asn Tyr Pro
            100
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<210> 37
<211> 133
<212> PRT
<213> Homo sapiens

<400> 37

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Met Asn His Pro Trp His Val Cys Phe Leu Phe Lys Val Leu Arg Tyr
 1               5                  10                  15

Tyr Pro Thr Ala Pro Ile Leu Lys Trp Thr His Thr Val Ser Cys Ser
            20                  25                  30

Trp Cys Arg Ser Val Leu Arg Glu Val Val Gly Asn Val Ser Leu Ser
        35                  40                  45

Glu Asn Phe Thr Ile Ser Ala Phe Cys Pro Glu Leu Thr Pro Phe Pro
    50                  55                  60

Asp Gln Gly Thr Ser Thr Met Ile Ser Phe Leu Glu Lys Phe Asn Lys
65                  70                  75                  80

Ser Lys Arg Glu Arg Leu Glu Leu Met Leu His Phe Tyr Ser Val Leu
                85                  90                  95

Ser Leu Glu Pro Ala Val Ala Glu His Trp Ser Gly Glu Phe Glu Lys
            100                 105                 110
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Trp Lys Val Gly Phe Phe His Pro Leu Lys Arg Glu Asp Gly Phe Phe
115 120 125

Thr Arg Thr Asp Ile
130

<210> 38
<211> 133
<212> PRT
<213> Homo sapiens

<400> 38
Met Asn His Pro Trp His Val Cys Phe Leu Phe Lys Val Leu Arg Tyr
1 5 10 15

Tyr Pro Thr Ala Pro Ile Leu Lys Trp Thr His Thr Val Ser Cys Ser
20 25 30

Trp Cys Arg Ser Val Leu Arg Glu Val Val Gly Asn Val Ser Leu Ser
35 40 45

Glu Asn Phe Thr Ile Ser Ala Phe Cys Pro Glu Leu Thr Pro Phe Pro
50 55 60

Asp Gln Gly Thr Ser Thr Met Ile Ser Phe Leu Glu Lys Phe Asn Lys
65 70 75 80

Ser Lys Arg Glu Arg Leu Glu Leu Met Leu His Phe Tyr Ser Val Leu
85 90 95

Ser Leu Glu Pro Ala Phe Ala Glu His Trp Ser Gly Glu Phe Glu Lys
100 105 110

Trp Lys Val Gly Phe Phe His Pro Leu Lys Arg Glu Asp Gly Phe Phe
115 120 125

Thr Arg Thr Asp Ile
130

<210> 39
<211> 128
<212> PRT
<213> Homo sapiens

<400> 39
Met Asp Ala Val Ala Val Tyr His Gly Lys Ile Ser Arg Glu Thr Gly
1 5 10 15

Glu Lys Leu Leu Leu Ala Thr Gly Leu Asp Gly Ser Tyr Leu Leu Arg
20 25 30

Asp Ser Glu Ser Val Pro Gly Val Tyr Cys Leu Cys Val Leu Tyr His
35 40 45

Gly Tyr Ile Tyr Thr Tyr Arg Val Ser Gln Thr Glu Thr Gly Ser Trp
50 55 60

Ser Ala Glu Thr Ala Pro Gly Val His Lys Arg Tyr Phe Arg Lys Ile
65 70 75 80

Lys Asn Leu Ile Ser Ala Phe Gln Lys Pro Asp Gln Gly Ile Val Ile
85 90 95

Pro Leu Gln Tyr Pro Val Glu Lys Lys Ser Ser Ala Arg Ser Thr Gln
100 105 110

Gly Thr Thr Gly Ile Arg Glu Asp Pro Asp Val Cys Leu Lys Ala Pro
115 120 125

<210> 40
<211> 343
<212> PRT
<213> Homo sapiens

<400> 40
Met Asp Ala Pro Lys Ala Gly Tyr Ala Phe Glu Tyr Leu Ile Glu Thr
1 5 10 15

Leu Asn Asp Ser Ser His Lys Lys Phe Phe Asp Val Ser Lys Leu Gly
20 25 30

Thr Lys Tyr Asp Val Leu Pro Tyr Ser Ile Arg Val Leu Leu Glu Ala
35 40 45

Ala Val Arg Asn Cys Asp Gly Phe Leu Met Lys Lys Glu Asp Val Met
50 55 60

Asn Ile Leu Asp Trp Lys Thr Lys Gln Ser Asn Val Glu Val Pro Phe
65 70 75 80

Phe Pro Ala Arg Val Leu Leu Gln Asp Phe Thr Gly Ile Pro Ala Met
85 90 95

Val Asp Phe Ala Ala Met Arg Glu Ala Val Lys Thr Leu Gly Gly Asp
100 105 110

Pro Glu Lys Val His Pro Ala Cys Pro Thr Asp Leu Thr Val Asp His
115 120 125

Ser Leu Gln Ile Asp Phe Ser Lys Cys Ala Ile Gln Asn Ala Pro Asn
130 135 140

Pro Gly Gly Gly Asp Leu Gln Lys Ala Gly Lys Leu Ser Pro Leu Lys
145 150 155 160

Val Gln Pro Lys Lys Leu Pro Cys Arg Gly Gln Thr Thr Cys Arg Gly
165 170 175

Ser Cys Asp Ser Gly Glu Leu Gly Arg Asn Ser Gly Thr Phe Ser Ser
180 185 190

Gln Ile Glu Asn Thr Pro Ile Leu Cys Pro Phe His Leu Gln Pro Val
195 200 205

Pro Glu Pro Glu Thr Val Leu Lys Asn Gln Glu Val Glu Phe Gly Arg
210 215 220

Asn Arg Glu Arg Leu Gln Phe Phe Lys Trp Ser Ser Arg Val Leu Lys
225 230 235 240

Asn Val Ala Val Ile Pro Pro Gly Thr Gly Met Ala His Gln Ile Asn
245 250 255

Leu Glu Tyr Leu Ser Arg Val Val Phe Glu Glu Lys Asp Leu Leu Phe
260 265 270

Pro Asp Ser Val Val Gly Thr Asp Ser His Ile Thr Met Val Asn Gly
275 280 285

Leu Gly Ile Leu Gly Trp Gly Val Gly Gly Ile Glu Thr Glu Ala Val
290 295 300

Met Leu Gly Leu Pro Val Ser Leu Thr Leu Pro Glu Val Val Gly Cys
305 310 315 320

Glu Leu Thr Gly Ser Ser Asn Pro Phe Val Thr Ser Ile Asp Val Val

325 330 335

Leu Gly Ile Thr Lys Val Ser
340

<210> 41
<211> 305
<212> DNA
<213> Homo sapiens

<400> 41
tcatgaagtg aagccaactg tttagactag aatgttatga gattaaaccc acnnnnnntt 60

attcatagac ataaaccctc attttaatta gtggatctgg atttttgtca tatgtggaat 120

cataatttaa acaaaatcaa ctaagatgat ccaagttcca cacaactgca cttcaatatt 180

caagtcggtg tgaagatgcc tgactactgc gtcacaagat tctgagctgt cgtaaaaagc 240

ctggctcgtg gtttctattt atagtgtaca catgttgggt tataatcaca aacctggaac 300

tctgt 305

<210> 42
<211> 256
<212> DNA
<213> Homo sapiens

<400> 42
gaaaccacgg cttacaccta gagacagcat tcagatatag acgggatact tgtgttagtc 60

agttccttta taacaggtga atctctctcc cactgcttca acactgcgtg acaaagccaa 120

ttgggaagca gctttacaaa tgtgacttga cttggggatc ttcttgatac tttgccatgg 180

caaggaacaa gccgcctgaa ctaaatgcca ctccatttga ttccacgctt aaagtaacca 240

tgcaaccgac tatagt 256

<210> 43
<211> 244
<212> DNA
<213> Homo sapiens

<400> 43
tactcttcaa ccatgatttt tctctgatgg cctgtgtgaa cagattaatg gtgtccatct 60

aattccttcc ccactggggg aaagcaaatc atcaggccca ttgcaaaaac tgctcttggt 120

tgagcttcct gccttaaatc atacccacag tgaatggcgt ccctttatca ccgctaatga 180

ctctgacatc tctctccact cacatgtgag cctcctcagc tctcganaaa caagtcngtc 240

tcgg 244

<210> 44
<211> 258
<212> DNA
<213> Homo sapiens

<400> 44
tctcagaaaa ctccagatca aatgagatga gtatggtgnn nagggctggc aattagagga 60

tactctccaa tggtgatgaa gggagatgtc tgggggaaat ccagcaggat gttgatttag 120

tatgtacaca gtgagaggat acttgtagag aacctagaat cttctctgaa tgtgacgggc 180

cctcagagat aattgttaac agataagtgg atgattaaat acacttcctc cagtaggcta 240

gatgttaaga cggagatc 258

<210> 45
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 45
gggcttaata ttattcatag atcgag 26

<210> 46
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 46
gttattatac tatcaagtaa cccaac 26

<210> 47
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 47
gtggatctgg atttttgtca tatgt 25

<210> 48
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 48
gtttgtgatt ataacccaac atgtg 25

<210> 49
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 49
gaaggggaag agacattaaa ttatc 25

<210> 50
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 50
gcttctaaat ctcctgagtc actt 24

<210> 51
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 51
gacaatgagt aagaagaaag aggg 24

<210> 52
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 52
gtccagtccc ttggtttatt tgtc 24

<210> 53
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 53
ggtacccagt ttcaaattaa catgg 25

<210> 54
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 54
gattcttcaa ctgccaaact tgttc 25

<210> 55
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 55
gctgatgctt ttctatctga cttc 24

<210> 56
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 56
gaccaggact gaacagaggt ga 22

<210> 57
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 57
gcttatagac catgtttgta gtagg 25

<210> 58
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 58
gtgaacaaat gctaaatcag acatg 25

<210> 59
<211> 22

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 59
gccacgggtt tcccatatcg aa 22

<210> 60
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 60
gactatactt aggaacctct gcaa 24

<210> 61
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 61
gttctgctct cagcagattg gtta 24

<210> 62
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 62

gccaacatct gaactaaata ctgc 24

<210> 63
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 63
gttcagtgaa tgttacctag aaaca 25

<210> 64
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 64
ggagtgaaaa ctgtcttgtt catc 24

<210> 65
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 65
gtatgacaaa tagtttctgc ctgat 25

<210> 66
<211> 25
<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 66
gattaacaaa gatgtacaga ctgag 25

<210> 67
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 67
gagacagcat tcagatatag acgg 24

<210> 68
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 68
gcgtggaatc aaatggagtg gc 22

<210> 69
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 69
gatggcctgt gtgaacagat taat 24

<210> 70
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 70
gagagagatg tcagagtcat tagc 24

<210> 71
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 71
gatccccaca atttcttgtg attg 24

<210> 72
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 72
gttcccctaa aataatgtgg taatg 25

<210> 73
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 73
gaggatactc tccaatggtg atg 23

<210> 74
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 74
gtcttaacat ctagcctact ggag 24

<210> 75
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 75
gagaggagcc atgtatacaa acca 24

<210> 76
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 76
gcacgcagga tcagatatag taattc 26

<210> 77
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 77
gctgaaacct aagctgaagg aagg 24

<210> 78
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 78
gtccctcacc tcagatcaca cc 22

<210> 79
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 79
gctatctacc tggcaggaaa agag 24

<210> 80
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 80
gagtttctta ctatgatctg gattc 25

<210> 81
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 81
gcaaaatgta ctcagcttca atcac 25

<210> 82
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 82
gtaaatgcag tactgttctg atcc 24

<210> 83
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 83
gaatgcttca ttctcattgt ttaagg 26

<210> 84
<211> 24

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 84
gtcactagga ttccacagaa cttc 24

<210> 85
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 85
gaggtagggc ttcccttcgc ta 22

<210> 86
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 86
gcataacaag tgacagggtt agtta 25

<210> 87
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 87

ggtgctcctt ccttacactg gt 22

<210> 88
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 88
gactacacat aaacccaccc cag 23

<210> 89
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 89
gggtacagga tttctaagaa gtgg 24

<210> 90
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 90
ggagaaaatt tcagctcatc tgaag 25

<210> 91
<211> 24
<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 91
gctgaagtta agcattaata cgcc 24

<210> 92
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 92
gcggctgtaa tgtgcaatga tgt 23

<210> 93
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 93
gacagcaacc taataacagc tgtc 24

<210> 94
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 94
gtcctaggca cttgtcacta gg 22

<210> 95
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 95
gaggggactt ccaagagtct ct 22

<210> 96
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 96
gtcttcagga aaattgtagt tacag 25

<210> 97
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 97
gttacaaaca cacacgaagt tcct 24

<210> 98
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 98
gacttcctaa ggcacactca gc 22

<210> 99
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 99
gtttaactac ctctcaggtc atga 24

<210> 100
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 100
gtcgccaagg ctgtagtgca at 22

<210> 101
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 101
gaaataggta tcccttgatg tcga 24

<210> 102
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 102
gaccaagaat tcagttcatc agtt 24

<210> 103
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 103
gaatgaacca gagccaggac ag 22

<210> 104
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 104
gccttgtatg tatgcctgtg cc 22

<210> 105
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 105
aagagtccac caggccatgg a 21

<210> 106
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 106
taccttgtgt acttctagct gag 23

<210> 107
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 107
gttttttttt tttttta 17

<210> 108
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 108
gttttttttt tttttg 17

<210> 109
<211> 17

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 109
gttttttttt ttttttc 17

<210> 110
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 110
cagagtgatg gatatcaa 18

<210> 111
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 111
atgaaagtgc cagtgtgcca tg 22

<210> 112
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 112

cccatcacca tcttccagga gc 22

<210> 113
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic DNA

<400> 113
ttcaccacct tcttgatgtc atcata 26

<210> 114
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic Peptide

<400> 114
Cys Pro Leu Lys Arg Glu Asp Gly Phe Phe Thr Arg Thr Asp Ile
1 5 10 15

<210> 115
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<221> MOD_RES
<222> (16)
<223> AMIDATION, GluAmide

<400> 115
Cys Ser Phe Leu Glu Lys Phe Asn Lys Ser Lys Arg Glu Arg Leu Xaa
1 5 10 15

<210> 116

<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<221> MOD_RES
<222> (15)
<223> AMIDATION, GlyAmide

<400> 116
Cys Ala Glu His Trp Ser Gly Glu Phe Glu Lys Trp Lys Val Xaa
1 5 10 15

<210> 117
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic Peptide

<400> 117
Cys Glu Ile Asp Lys Arg Val Ser Leu Ile Leu His Phe Gly Lys Phe
1 5 10 15

<210> 118
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic Peptide

<400> 118
Cys Arg Leu Met Lys Arg Lys Thr Gly Glu Ser Leu Leu Ser Ser
1 5 10 15

<210> 119
<211> 14
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic Peptide

<400> 119
Cys Thr Ser Ile Asp Val Val Leu Gly Ile Thr Lys Val Ser
1 5 10

<210> 120
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<221> MOD_RES
<222> (16)
<223> AMIDATION, LysAmide

<400> 120
Cys Ser Ala Glu Thr Ala Pro Gly Val His Lys Arg Tyr Phe Arg Xaa
1 5 10 15

<210> 121
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic Peptide

<400> 121
Cys Lys Ile Thr Glu Lys Gln Leu Leu Gly Asn Val Leu Asn Tyr Pro
1 5 10 15